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EXAMINER

REYES, HECTOR M

ART UNIT

PAPER NUMBER

1625

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,455

Applicant(s)

JACQUOT, ROLAND

Examiner

Hector M Reyes

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23 to 52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23 to 52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 1625

DETAILED ACTION

Paper Entry

Examiner acknowledges entry of the following Papers:

- Priority Document, filed on March 13, 2002 as Paper no. 2
- 903 form, filed on May 22, 2002 as Paper no. 3
- Preliminary Amendment, filed on March 13, 2002 as paper no. 4.

Status of The Claims

Claims 1 to 22 had been canceled via preliminary Amendment. New claims 23 to 52 had been added. Currently, claims 23 to 52 are under Examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23 to 52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 is indefinite and confusing. What is the invention being claim? Is it the formation of the called "mixed ether of benzyl alkynyl type" derivative or the further reaction of the said compound in an alkylation reaction?

Art Unit: 1625

In Claims 23, 24, 26 and 52 the phrase "mixed ether of benzyl/alkynyl type is indefinite because it is not clear what are the compounds embraced by the said definition. Where is the benzyl ether group located, relative to the alkynyl group? What is the structure of the said starting material?

Claims 23 to 52 are indefinite, confusing and vague. Even considering that the said claims are drawn to the preparation of a chemical compound, it is unclear what is the structure of the compound intended to be prepared. None of the said claims characterized clearly the said product. Moreover, if the claimed process consists of an alkylation, it is unclear what is the position or positions wherein the said alkylation takes place. Since the possible structure contains carbons atoms such as benzylic carbons or alkynyl carbons or carbons next to oxygen atoms from ethers, all the said carbons may contain potential acidic hydrogen atoms that may be replaced in an alkylation process. Proper characterization of the product obtained is required.

Claim 24, 26, 27, 28, 29, 30, 31 and 32 are indefinite because the said claims are directed to described moiety A and its substituents as described in claims 24 and 26.

There is lack of antecedent basis for the said group A in the independent claim 23, from which claims 24 and 26 directly depend. Claim 23 described the structure of the starting material require using the confusing phrase "mixed ether of benzyl/alkynyl type" and there is no antecedent basis for the multiple groups embraced by the said variable moiety A. Depending claims should further limit elements previously found in the claims from which they depend.

Art Unit: 1625

In claims 24, 26, 35 and 36, the phrase "general formula" is indefinite because the said intended formula is not general if not indented to define certain groups of compounds.

Examiner suggests the elimination of the adjective general from the said phrase.

Claim 45 is indefinite. While a lithiated amide is commonly obtained in the art by the action of a strong lithiated base and the corresponding amine, it is unclear how a lithium amide can be obtained by "the action of a strong lithiated base" on a corresponding alkali metal alcoholates, sodium and potassium.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

Art Unit: 1625

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 23 to 52 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over:

- Kobayashi et al, JACS, 1998, vol. 120, pages 908-919
- Chong et al, Tetrahedron Letters, vol. 27, no.45, pages 5445-5448.

Kobayashi discloses the preparation of 1-benzyloxy-(7R)-7-(methoxymethoxy)-3-tridecyne from the reaction of 4-benzyloxy-1-butyne in THF with n-butyllithium and 1-bromo (3R)-3-(methoxymethoxy) nonane. See Scheme 3a and Preparation Procedure of compound (35), page 915.

Kobayashi also discloses the preparation of (2S,3S,9'S)-3-benzyloxy-2-(9'-(methoxymethoxy)pentadec-1-ynyl)2,2-dimethyl-1,3-dioxane by reacting (4S,5S)-5-benzyloxy-4-ethynyl-2,2-dimethyl-1,3-dioxane in THF with butyllithium and 1-bromo(7R)-7-methoxymethoxytridecane. See Scheme 4a and preparation procedure for compound 37, page 916.

Chong discloses the alkylation of terminal alkynes by reacting the said derivatives with methylolithium and an alkylating agent. Chong discloses that terminal acetylenes possessing an inductively stabilizing group may be conveniently alkylated in good yields. Among the terminal alkynes used by Chong are the ether-benzyloxy derivatives 2 and 3, see table, page 5446. See in the said table that alkyl and alkoxy groups are some of the said possessing an inductively stabilizing group.

Kobayashi or Chong do not disclose:

Art Unit: 1625

- Benzyl ether acetylenes having other substituents

Nonetheless, base upon Chong suggestions, a person skilled in the art would carried out the alkylation of terminal acetylenes having an inductively stabilizing group in order to obtain the alkylation of the said terminal alkyne under the same conditions: by deprotonation of the terminal alkyne hydrogen and treatment of the presume carbanion with an alkylating agent.

No more that routine skill is involved when substituting a given reactant by another in a conventional process in order to obtain the result taught by the prior art. The changes of a given terminal acetylene by another, or an alkylating agent by another or a given anionisation agent by another in a known process such as the alkylation of alkynes, do not impart patentability to the said process.

CONCLUSION

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Hatayeyamna et al, Tetrahedron Letters, vol. 50, no. 47, pp13369-13373
- Makabe et al, Heterocycles, vol. 43 no. 10, 1996.

The said references also disclose examples wherein terminal alkynes having ether and benzylic groups are subjected to alkylations via treatment of the same with a strong base and an alkylating agent.

Any inquiry concerning this communication should be directed to Hector M. Reyes whose telephone number is (703) 605-1153. The examiner can normally be reached on Monday to Friday from 8 am to 4pm.

Art Unit: 1625

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Rotman, whose telephone number is (703) 308-4698. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556 or for regular communication and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of the application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Héctor M. Reyes PhD, JD

September 17, 2003



ALAN L. ROTMAN
SUPERVISORY PATENT EXAMINER
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